# Marion 'Rio' Hall-Zazueta

## **EDUCATION**

## Stanford University - Stanford, CA

JUNE 2024 EXPECTED GRADUATION	
M.S. Mechanical Engineering	GPA: 4.1
JUNE 2022	
B.S. Mechanical Engineering with distinction	GPA: 4.1

**Relevant Coursework**: Introduction to Mechatronics, Introduction to Sensors, Design Engineering Practicum, Computer-aided Product Realization, Design for Additive Manufacturing, Mechanical Systems Design, Computational Engineering, Programming Abstractions

## **EXPERIENCE**

## **Mechanical Engineering Intern**

Zipline, South San Francisco, CA JUNE 2023 - SEPTEMBER 2023

- Used Femap/NASTRAN to conduct flutter and strength analysis to size and select material for control surfaces and structural elements on drone
- Prototyped and tested carbon fiber coupons and components to correlate analysis models and de-risk joints
- Documented and presented structural analysis/margins to design team

# Product Design Mechanical Engineering Intern

Verkada, San Mateo, CA JUNE 2022 - DECEMBER 2022

- Led mechanical design of accessory for alarm console, collaborating with industrial design and product teams
- Improved user assembly experience and optimized weight and stiffness of alarm interface mount plate using FEA simulation and prototyping
- Conducted research for product development, including teardowns, development of product requirements, and component testing

# **Product Design Engineering Intern**

Exactech, Gainesville, FL SUMMER 2021

- Generated and prioritized design inputs for medical roll stand, led cross-team collaboration on design, prototyping, and testing
- Contributed to special instrument development for surgeons: router and inspection instructions, complaint occurrence rate analysis, biocompatibility and durability assessments, user needs and design inputs
- Prepared tolerance stack ups and compatibility assessments

## **Research Assistant**

Summer Undergraduate Research Institute, Stanford CA SUMMER 2019

• Analyzed wake losses for Horns Rev I wind farm in MATLAB to create optimized theoretical layouts, based on the Jensen wake model, as an undergraduate research intern under Professor Sanjiva Lele

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## **KEY SKILLS**

## **Design & Analysis**

SolidWorks, Fusion 360, NX MATLAB, Python COMSOL, Femap/NASTRAN Figma Sketching, Hand drafting C++, Java

#### Manufacturing

3D printing Laser cutting Wood tools Metal working Lathe, CNC Mill Design for Manufacturing (sheet metal, injection molding, etc.)

### **OTHER EXPERIENCE**

**Course Assistant** ME 104: Mechanical Systems Design | Win/Spr 2023 CME 100: ACE Vector Calculus | Fall 2023

Stanford Undergrads in Mechanical Engineering President 2021-2022

**Stanford Robotics** Autonomous Boat Project Team Member 2020-2021

**Student Space Initiative** Rockets Payload Co-Lead Rockets Frosh Mentor 2019-2020

## **HONORS & AWARDS**

Terman Award 2022 Tau Beta Pi Phi Beta Kappa

#### LANGUAGES

Spanish (4 years) German (basic written and spoken)